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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,888	01/11/2002	Alan Gatherer	TI-31639	1223

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EXAMINER
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TORRES, JUAN A

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/044,888

Applicant(s)

GATHERER ET AL.

Examiner

Juan A. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, see Amendment - After Non-Final Rejection, filed 07/18/2005, with respect to rejection under 35 USC 102 of claims 1 and 10 have been fully considered and are persuasive. The rejections of claims 1 and 10 has been withdrawn.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "93" (event though it is mentioned in the abstract, it is not mentioned in the specification). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The modifications to the specification were received on 07/18/2005. These modifications are accepted by the Examiner.

The disclosure is objected to because of the following informalities: in page 1 lines 506, the information about the US Serial No.\_\_\_\_ with dockets no. TI-31514 and TI-31552 are missing.

Appropriate correction is required.

### ***Claim Objections***

Claims 1-18 are objected to because of the following informalities:

As per claim 1, the recitation "a sequencer apparatus coupled to said first and second SISO decoders, said sequencer apparatus having an input for receiving information about one of said wireless communication channels, said sequencer apparatus responsive to said wireless communication channel information for controlling said SISO decoders such that said first SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding operation before said second SISO decoder performs its associated decoding operation and such that said second SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding operation before said first SISO decoder performs its associated decoding" is improper, because the sequencer needs information from both wireless communication channels (see figures 8 and 9, do decide which SISO has the worst a priori probability, so it is executed first) if only information from one channel is available, the sequencer will not be able to decide what to do, at least in view of the present

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specification; it is suggested to be changed to "a sequencer apparatus coupled to said first and second SISO decoders, said sequencer apparatus having an input for receiving information about said first and second wireless communication channels, said sequencer apparatus responsive to said wireless communication channel information for controlling said SISO decoders such that said first SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding operation before said second SISO decoder performs its associated decoding operation and such that said second SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding operation before said first SISO decoder performs its associated decoding".

As per claims 2-9, they are objected because they depends from claim 1, and claim 1 is objected (see above).

As per claim 10, the recitation "in response to information about one of said wireless communication channels, controlling the SISO decoders such that in one instant said first SISO decoder performs its associated decoding operation before said second SISO decoder performs its associated decoding operation and such that in another instant said second SISO decoder performs its associated decoding operation before said first SISO decoder performs its associated decoding operation" is improper, because the sequencer needs information from both wireless communication channels (see figures 8 and 9, do decide which SISO has the worst a priori probability, so it is executed first) if only information from one channel is available, the sequencer will not be able to decide what to do, at least in view of the present specification; it is suggested

to be changed to "in response to information about said first and second wireless communication channels, controlling the SISO decoders such that in one instant said first SISO decoder performs its associated decoding operation before said second SISO decoder performs its associated decoding operation and such that in another instant said second SISO decoder performs its associated decoding operation before said first SISO decoder performs its associated decoding operation".

As per claims 11-18, they are objected because they depends from claim 10, and claim 10 is objected (see above).

Appropriate correction is required.

***Allowable Subject Matter***

Claims 1-18 are allowed (if the above objections are overcome).

The following is a statement of reasons for the indication of allowable subject matter: Claims 1-18 are allowed because the references cited fail to teach, as applicant has, a sequencer apparatus and method coupled to the first and second SISO decoders, the sequencer apparatus having an input for receiving information about the first and second wireless communication channels, the sequencer apparatus responsive to the wireless communication channel information for controlling the SISO decoders such that the first SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding operation before the second SISO decoder performs its associated decoding operation and such that the second SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding

operation before the first SISO decoder performs its associated decoding, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Everest Huang, Alan Gatherer, Tarik Muharemovic, Dale Hocevar ("Improving Performance of a Space-Time Turbo Code in a Rayleigh Fading Channel", IEEE VTC October 7, 2001) discloses all the limitations of the present application, it was published before the filing date of the present application, but during the 1 year grace period. Seshadri (US 6584593 B1) discloses a turbo TCM code is concatenated with a space-time code as an outer code, Seshadri doesn't disclose a sequencer apparatus and method coupled to the first and second SISO decoders, the sequencer apparatus having an input for receiving information about the first and second wireless communication channels, the sequencer apparatus responsive to the wireless communication channel information for controlling the SISO decoders such that the first SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding operation before the second SISO decoder performs its associated decoding operation and such that the second SISO decoder is controllable in response to the sequencer apparatus to perform its associated decoding operation

before the first SISO decoder performs its associated decoding, as the applicant has claimed.

This application is in condition for allowance except for the following formal matters:

See above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres  
02-07-2006

  
**KEVIN BURD**  
**PRIMARY EXAMINER**